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ABSTRACT

Landes (1975) reviewed research studying adult-child linguistic interactions. Evidence that the language which adults use in addressing young children is different from that used in addressing adults and that parent-child interaction patterns change with the increasing age and language skills of the child has important implications for the study of first language acquisition. The present study examined the syntactic dimensions of the classroom language of eight teachers of adult ESL classes. The classroom language samples were compared with samples of the same subjects' speech with each other. Six measures of syntactic complexity were used. Results indicate that in the same way that adults adjust their normal speech when addressing young children, the subjects under study are sensitive and responsive to the perceived linguistic abilities of their students. Many of the strategies and devices used by adults in dealing with children in language interactions are also used for communicative and/or pedagogical purposes in the ESL classroom. Thus, in terms of the nature of the linguistic input to which learners are exposed, further support is lent to the hypothesis that second language learning proceeds in a way largely similar to that in which a first language is acquired. (Author/CLK)

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ESL TEACHERS' CLASSROOM SPEECH: SUPPORT FOR THE L_1=L_2 HYPOTHESIS*

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From research in applied linguistics and related disciplines has emerged in the last generation a radically altered view of the nature of first language acquisition. The "nativist" theory currently enjoying wide favor claims that first language acquisition is shaped and guided by the innate neurological structure and cognitive predisposition to learn language which are the uniquely human genetic endowment possessed by every child. Language learning is not, as behaviorist learning theory had explained it, merely the accumulation of a series of automatic stimulus-response associations, a process in which the learner's participation is limited to imitation, the formation of unconscious habits based on differential external reinforcement and strengthened by practice, and some unspecified form of stimulus generalization. Instead, according to the nativists, the language learner, whose innate acquisition device is activated, at a given stage of maturation, by exposure to primary linguistic data in the target language, scans that data in order to discover how certain linguistic universals are manifested in the language to be acquired, organizes and categorizes the data, and deduces from it a set of hypotheses or sentence-generating rules to account for that data and to produce novel utterances consistent with it. These hypotheses which the child forms undergo constant revision; it is fair to conceive of the language acquisition process as involving

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a succession of "grammars" or rule-systems which the learner develops to contend with increasing exposure to the language to be acquired and which he/she modifies at least partially in response to feedback received from linguistic interaction with adult speakers of the language. In all but the very rarest of cases, the first language acquisition process ultimately ends with the child's attainment of the rule-system and linguistic competence of his/her speech community at large.

There are certainly factors which suggest that the adult attempting to learn a second language is in an irrevocably different position from that of a child acquiring his/her native language. Furthermore, it is undeniably true, though for reasons which are far from fully understood, that that adult second language learning is nowhere nearly so universally successful as first language acquisition---if we define "success" as the attainment of the linguistic competence shared by fully proficient speakers of the target language. Many applied linguists, however, agree with Corder (1967) that "it still remains to be shown that the process of learning a second language is of a fundamentally different nature from the process of primary acquisition" (p. 164). Indeed, a considerable amount of research has provided empirical evidence to support Corder's position. Investigation of the utterances of adults learning a second language both in "natural" situations and through formal instruction suggests that like children acquiring their native language, adults actively process and organize the target language data to which they are exposed. Data is scanned for underlying regularities, and through the application of a number of processing strategies, adults attempt to deduce rules to account for the data to which they are ex-

posed and to generate utterances of their own in the language. Many "errors" made by adults learning a second language are systematic, and they reflect an underlying hypothesis about the language. The kind of error which was explained by behaviorist theory as an imperfect imitation, an incorrectly learned habit, can in fact be more adequately explained as the product of an adult's hypothesis about the structure of the target language which happens not to correspond to the actual rule in the full target language system.

Within the framework of the nativist approach to first (and second) language learning, the focus, then, is on the learner. This relocation of the primary mechanism of the acquisition process in the learner has been accompanied by a parallel de-emphasis of the role played by external or environmental sources, which the behaviorists had insisted were the sole determinants of behavior change (i.e., learning). In the behaviorist view, the child learning language is considered to be enormously dependent on the particular set of overt verbal stimuli to which he/she is exposed; the individual's attempts to imitate the specific utterances heard and the nature of the reinforcement which greets those efforts are thought to shape the development of a verbal repertoire and thus constitute the heart of the acquisition process. The nativist view, on the other hand, drastically minimizes the importance of the particular linguistic data to which the learner is exposed as a critical factor in the acquisition process. Rather, it is through the innate ability of the learner to deduce regularities and to form generalizations from a mass of unorganized, random linguistic input that language is acquired.

There are undeniably a number of explanatory advantages in asserting that the course of language acquisition is in large part guided by the learner's biologically-determined capacity for language learning

and the processing strategies used by the learner to organize and account for the data to which he/she is exposed. Recent research, however, suggests that it is not solely by the learner that primary linguistic data is organized and that to imply, as McNeill (1966) has done, that the language learner is exposed to linguistically random data is inaccurate beyond the degree of mere hyperbole. As Landes (1975) concludes from a review of the pertinent research, "it is clear that adults are not only sensitive to and affected by the need to communicate with their children, but that interaction patterns between parents and offspring change with the increasing language skills of the child" (p 376). It is the opinion of Landes, among others, that it is therefore a mistake to treat the nature of the actual linguistic input to which a learner is exposed as basically irrelevant to the acquisition process.

Let me briefly review the research relevant to this point. First, as regards evidence for the assertion that adult-child verbal interactions are linguistically different from adult-adult discourse, the most striking is the existence of "baby talk," which Ferguson (1964) defines as a "special form of language which is regarded by a speech community as being primarily appropriate for talking to young children and which is generally regarded as not the normal adult use of language" (p. 103). Modifications of the full adult system in the form of reductions, deletions, and replacements are seen to account for the characteristic simplicity of "baby talk." In addition, "baby talk" has a special lexicon typically consisting of words relating to kin names, body parts and functions, fundamental qualities, and names of animals and games. Morpho-syntactic features of "baby talk" include the use of a dimunutive affix (in English, "-ie") which is used much less fre-

quently in normal language, a frequent absence of the copula and inflectional affixes, an increased use of nouns, and a corresponding decrease in the use of pronouns.

According to Ferguson, many informants feel that their use of "baby talk" makes it easier for children to learn to talk. It may well be that "baby talk" serves as a transitional model for young children as they progress from initial vocalizations toward the beginning of genuine language acquisition. The claim is a complicated one to defend, however, since, as Ferguson points out, "baby talk" is also used with pets and infants, and it can hardly be argued that an infant or pet is being taught to speak.

On the other hand, substantial adjustment of normal adult language also occurs when adults address young children who are learning their first language, and it is precisely because adult linguistic input may play some more than minimally directional role in the acquisition process that an examination of these adjustments becomes worthwhile. Evidence of linguistic adjustment can be found in Brown and Bellugi (1964), whose study involved the verbal interactions of a single mother-child pair. The mother's sentences were generally short and grammatically simple. Drach (1969) found that the average adult-adult utterance contains twice as many transformations and ten times as many subordinate clauses as the average utterance addressed by an adult to a 26-month-old child. Further, adult-child verbal interactions involve a much higher percentage of imperatives and interrogatives; Ervin-Tripp (1971) states that interrogative sentnences account for between 25-50% of a total corpus of adult-child utterances. Drach also found that utterances in adult-adult interactions are considerably more variable than utterances addressed

by adults to children in terms of morpheme count; in addition, the average utterance length of adult-adult speech, as measured by morpheme count, is two and one-half times that of the average adult-child utterance.

Similar evidence comes from Snow (1972), who reports that mothers use fewer subordinate clauses and compoound verbs when speaking to 2-year-old children. Furthermore, "mean pre-verb length scores (of mother-child interactions) were lower, indicating less left branching and self-embedding" (Snow, 1972, p. 56). Research by Phillips (1973) involving 30 mother-child pairs confirms the hypothesis that speech addressed to young children is syntactically less complex. This is also the conclusion of Granowsky and Krossner (1970), whose work examined the language used by teachers in kindergarten classes.

Brown, Salerno, and Sachs (1972) have shown that the trend toward syntactic simplification which can be observed in parent-child speech is also characteristic of the speech addressed to young children by non-parent adults. Finally---and most significantly---Berko Gleason (1973) found evidence that by age eight, children modify their language when addressing younger children.

As measured by sentence length, transformational complexity, and a number of other variables, then, the syntax of the language which adults use with young children clearly suggests a deliberate effort toward simplification. This notion is reinforced by parallel phonological and lexical adjustments---a tendency toward a reduced rate of speech (accompanied by clearer articulation and exaggeration of normal stress and intonation patterns) and a preference for lexical items with generalized reference.

As for the claim that adult linguistic input varies according to a child's age, the evidence is much more sketchy. Snow (1972) found that the language addressed to two-year-old children is grammatically simpler than that used with ten-year-olds. In fact, Snow asserted that mothers' speech to ten-year-olds is comparable in syntactic complexity to adult-adult verbal interactions. Phillips (1973) claimed that from age 18 months, children begin to be addressed in increasingly complex language. Fraser and Roberts (1975) asserted that this trend toward increased syntactic complexity, as measured by mean utterance length (MLU), continues until the child reaches two and one-half years of age; no change was observed thereafter, though.

Though the documentation is incomplete and in places somewhat contradictory, it remains nonetheless reasonable to suppose that between ages two and ten, children are exposed to increasingly complex linguistic data. The actual schedule according to which this takes place, however, is largely unknown. So, for that matter, is the relative importance of adult linguistic input versus input from child-child interactions and adult linguistic performance not specifically addressed to children. It is, however, a reasonable working assumption to view the relative simplcity and organization of adult linguistic input as having a facilitating effect on the acquisition process, in that the child may more easily discover the basic sentence patterns and major constituent categories of the target language when the load placed on his/her cognitive abilities and memory are not excessive. At any rate, the phenomenon of linguistic adjustment is sufficiently manifest for applied linguistis to recognize that any explanation of language acquisition must in some way address itself to the potential contribution

made by this initial organization and adjustment of the target language data to which a learner is exposed.

In the case of second language learning which takes place in formal instructional settings, there is by definition the assumption that the learner's exposure to and experience with the second (or foreign) language is in some way guided and organized. Given what is known about the organization or structuring of the input data in first language acquisition, we face, in the absence of any empirical evidence, the paradoxical situation of knowing that the input data in first language acquisition, which was thought to be essentially random, is in fact structured, but of not knowing whether the input data in presumably structured presentations of a second language is indeed similarly adjusted and organized. It was the purpose of the present study to attempt to find evidence to address this paradox. Specifically, the question investigated was the following: in terms of syntax, is there any indication that the linguistic data to which formal learners of English are exposed through the oral classroom language of their teachers is adjusted and graded in complexity analogously to the language addressed to first language learners?

In the present study, the syntax of the oral classroom language of eight ESL teacher-trainees was examined. The subjects were teacher-trainees enrolled in a Practicum course offered by the Program in Applied Linguistics at Indiana University. Three of the subjects were highly proficient nonnative speakers of English who had had some experience teaching English in their home countries. The others were native speakers of English whose prior teaching experience was quite limited.

The subjects taught adult ESL classes as part of the Practicum course requirements. These classes, which are offered each semester, meet hourly four evenings a week for a period of ten weeks. In the Fall of 1975, when the data for the present study was collected, instruction was offered at four different levels. Each of these four levels was taught by two teachers, who shared the teaching responsibilities equally. It should be mentioned that the subjects were given a great deal of freedom in making decisions about curricular goals, teaching materials and techniques, and classroom management practices.

Each of the subjects agreed to let the researcher tape three of his/her classes: one each at the beginning, middle, and end of the ten-week period. In addition, the weekly meetings of the Practicum class, in which the subjects and their instructors discussed general and specific problems and approaches in teaching English to speakers of other languages, were taped so that samples of the language which the subjects used with each other---that is, among linguistic peers---could be obtained.

From each of the twenty-four classroom tapes, a 500-word sample was selected for analysis. In each case, the sample consisted of the first 500 words contained in sentence-length utterances spoken by the teacher during the actual class period. For the baseline language data collected in the Practicum class meetings, the first 500 words spoken in sentence-length utterances by a subject to the class as a whole and with the class' attention constituted the sample for that subject.

The samples were transcribed and analyzed by the researcher. Analysis proceeded by segmentation of the samples into T-units. A T-unit is defined as "one main clause plus any subordinate clause

or nonclausal structure that is attached to or embedded in it" (Hunt, 1970, p. 4). This unit of syntactic analysis is objective and easy to compute, and in the last ten years it has gained increasing recognition as a far more valid index of syntactic complexity than other measures, including sentence length. A particularly attractive feature of the T-unit as an index of syntactic maturity was revealed by O'Donnell, Norris, and Griffin (1967); in their study of the syntax of the oral and written language of elementary schoolchildren, these researchers noted a close relationship between T-unit length and the number of sentence-combining transformations required to generate a T-unit. Differential mean length of T-unit, then, appears to reflect the relative degree to which users exploit the transformational resources of English.

Altogether, measures on six dependent variables were computed for each sample. These variables were: words per T-unit, ratio of clauses (main and subordinate) per T-unit, words per clause, adjective clauses per 100 T-units, adverb clauses per 100 T-units, and noun clauses per 100 T-units.

Table 1 (see Appendix) presents a comparison of the means of the subjects' classroom language and their speech among linguistic peers. The data as measured by all six dependent variables indicates an overall process of syntactic simplification in the classroom language. The subjects spoke in shorter clauses and used fewer subordinate clauses per T-unit when addressing their students than they did when speaking to highly proficient interlocutors. Multivariate analysis of variance performed on the data revealed that the overall difference in syntactic complexity was highly statistically significant ($p < 0.0001$).

The next step in the analysis involved the comparison of the oral classroom language used from level to level. Table 2 compares mean performance of the subjects according to the level at which they were teaching. What emerges from the data is an unmistakable relationship between the syntactic complexity of the subjects' classroom language and the level of proficiency of their students. At any level, the syntax of the teachers' oral classroom language is more complex than at the level immediately below it and less complex than at the level immediately above it; and this is true for every one of the six criterion variables.

Table 3 compares the same data; here, however, the syntactic complexity of the teachers' classroom language used in the Advanced classes serves as the index of comparison. Let us briefly consider, by way of illustration, the two most different levels, the Beginner (L_1) and the Advanced (L_4). At L_1, the two subjects used T-units whose mean length was only 52% as great as the average T-unit used by the two teachers at L_4. The mean length of clauses used by the subjects teaching at L_1 was only 70% of the mean clause length in the data of the two subjects teaching at L_4. Finally, the difference in the ratio of clauses per T-unit at the two levels also indicates the difference in the language used by the teachers at these levels. It should be noted that since every T-unit contains one main clause, the minimum possible ratio of clauses per T-unit is 1.00. The subjects teaching at L_4, then, used subordinate clauses roughly nineteen times as often as did their counterparts teaching students with no proficiency in English at the time classes began.

Multivariate analysis of the data revealed the following: (1)

the level of proficiency which a class of students was assumed to have is a statistically significant ($p = 0.0227$) factor determining the syntactic complexity of the classroom language used by the teachers, and (2) the syntactic complexity of the oral language used by a teacher at one level is significantly less than mean performance of the teachers teaching at more advanced levels (the only exception was between the Intermediate and Advanced levels, where the same trend was apparent, but not to a statistically significant degree).

To summarize, the study just described investigated whether the classroom language of teachers in a formal language learning setting reflected some degree of syntactic adjustment and whether these adjustments, if indeed they were found to exist, moved progressively, like those discovered in the primary linguistic input in first language acquisition, towards greater approximation of the full adult target language norm. From the data obtained, the answer to both questions is affirmative.

It is widely believed, however, that linguistic adjustment of the kind observed in the classroom language of the subjects in the present study is characteristic of virtually all verbal interactions between speakers of a language and less than fully proficient interlocutors. This is the view of Ferguson (1971), who postulated the principle that speech communities tend to have conventional varieties of "simplified" speech which speakers regard as appropriate for use when their interlocutors do not have full understanding of the language in use. One variety, to which the name "Foreigner Talk" has been given, is, like "baby talk," thought to be the product of conscious choices on the part of speakers of a language and, according to Ferguson (1975), is "opti-

ally characterized by an additional set of rules added to the grammar of the language being simplified" (p. 1). "Foreigner Talk" is generally felt to be a transitional form of communication between linguistic unequals; "the usual outcome of the use of foreigner talk is that one side or the other acquires an adequate command of the other's language" (Ferguson, 1971, p. 144).

In other words, the syntactic adjustments made by foreign language teachers represent a single instance of the kind of linguistic adjustment typically made on behalf of all adults learning---formally or not---a second language. The primary linguistic input to which formal second language learners are exposed via their teachers' classroom language is indeed syntactically adjusted as is the case in the primary linguistic input with which first language learners operate, but it is no less typical of the speech addressed to adult learners in language usage settings where the intent is not specifically instructional.

Is the implication, then, that the contribution of the foreign language teacher's classroom language is merely neutral in the sense that it does not controvert the nature of the linguistic data to which all language learners, both first and second, are exposed? I think not, but the motivation for saying this is not based on syntactic adjustment alone, but rather in another dimension of teachers' classroom language which is specifically the result of the instructional setting in which it occurs.

A number of studies have shown that many of the verbal interactions between parents (most generally mothers) and children acquiring language involve communicative strategies or devices on the part of the adult which are tantamount to what Landes (1975) calls "training sessions."

Among the different strategies which have been observed, four are worth mentioning here:

(1) repetition: this technique is thought to have potential accelerating effects on language acquisition. As Snow (1972) explains:

> Short term memory limits the time available for processing input. Repetition of a sentence would give added processing time, thus increasing the child's chances of successfully processing the sentence (p. 563).

Kobashigawa (1969), who studied the same corpus examined by Drach (1969), found that 15% of the statements, 35% of the questions, and 60% of the imperatives addressed by a mother to her 26-month-old son were repeated with no long intervening pauses or activity.

(2) prodding: this strategy characterizes instances when a mother (or father) makes it verbally clear that she wants her child to say or repeat something. Such verbal directions typically take the form of "Can you say...?" or "Say...". A related device is prompting, in which, for example, a mother will show a child a picture of something which the child knows the word for and will say, "This is a what?" or "What's this?"

(3) modeling: Brown (1970) asserted that

> for any given preposition, both the frequency with which it is modeled and the frequency of expansions are strongly related to the point at which that preposition is regularly supplied by the child in all the phrases requiring it (p. 146).

Modeling thus refers to those occasions in which it is evident from the situation that the mother intends to demonstrate or teach her child something. In contrast to "prodding" or "prompting," "modeling" takes place when, for example, a child does not know the name of something in a picture and the adult supplies the appropriate lexical item.

(4) correction by expansion: while most studies of language acquisition devalue the role of corrective feedback, there is considerable sentiment to regard parental expansions of children's utterances---what have been termed "imitations in reverse," and which are presumably performed by the adult to check his/her understanding of the child's utterance---as very possibly contributive to language development. As Brown (1970) describes it, "by expanding the child's words into the nearest sentence appropriate to the circumstances, a mother may teach a child to conceive of those circumstances as they are conceived in our community and to code them as we code them." In contrast to children's imitations of parental utterances, which are not grammatically progressive, it has been asserted by at least one researcher (McNeill, 1966) that in some cases, children's imitations of parental expansions are grammatically progressive roughly 30% of the time. Though the data is not at all conclusive, it is still valid to assume provisionally that parental expansions of children's utterances are as likely as not contributive to language development.

Now, it is precisely these kinds of "training sessions" which are characteristic of foreign language classroom verbal activity. Preliminary observation of the data of the present study indicates that these four strategies are used by all subjects in the classroom, but particularly so by the two subjects teaching at the Elementary level. These kinds of verbal interactions between a speaker of a language and a learner of a language are communicative and/or pedagogical in nature, and they are essentially consistent with any individual teaching methodology. They are, in fact, so intimately a part of the teacher's normal classroom activity that the role they may play in the learning

process is probably taken too much for granted.

Their use by foreign language teachers, however, like the tendency to simplify the syntax of the language which they address to their students, suggests that the foreign language teacher may serve the same function in second language learning that the parent does in first language acquisition. To whatever degree the primary linguistic input supplied by parents in first language acquisition is a critical feature of the acquisition process, the linguistic and communicative/pedagogical strategies which characterize teachers' classroom language might similarly shape and guide the formal second language learning process. In addition, the "training sessions" which result from the use of these strategies in a teacher's verbal interactions with his/her learners would thus be a major criterion distinguishing formal from unstructured or "natural" second language learning, since in the latter these strategies would presumably be considerably less frequently employed by speakers of a language whose contact with a learner of the language has no explicit pedagogical goals.

What has been presented here might best be characterized as a working hypothesis to be verified or refuted by subsequent research. It is my feeling, however, that it is reasonable to suggest that the nature of second language teachers' classroom speech is such that in terms of the linguistic input to which second language learners are exposed through formal instruction, further support is lent to the hypothesis that second language learning should not be assumed to proceed in a manner fundamentally different from that in which children acquire their native language.

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APPENDIX

TABLE 1. COMPARISON OF SYNTACTIC COMPLEXITY OF SUBJECTS' BASELINE (PRACTICUM CLASS MEETINGS) LANGUAGE AND THEIR ORAL CLASSROOM LANGUAGE

	SOURCE OF LANGUAGE SAMPLE	
	BASELINE (N = 8)	ESL CLASSROOM (N = 24)
VARIABLE		
w/T	10.97	6.19
c/T	1.60	1.20
w/c	6.84	5.10
AD/100	11.59	2.54
AV/100	20.27	5.33
N/100	28.54	11.16

w/T = words per T-unit
c/T = clauses per T-unit
w/c = words per clause
AD/100 = adjective clauses per 100 T-units
AV/100 = adverb clauses per 100 T-units
N/100 = noun clauses per 100 T-units

TABLE 2. COMPARISON OF SYNTACTIC COMPLEXITY OF SUBJECTS' ORAL CLASSROOM LANGUAGE BY LEVEL

LEVEL	VARIABLE					
	w/T	c/T	w/c	AD/100	AV/100	N/100
L_1 (Beginner) (N = 6)	4.30	1.02	4.20	0.00	0.76	1.60
L_2 (Upper Beginner) (N = 6)	5.75	1.14	5.04	1.46	3.64	6.92
L_3 (Intermediate) (N = 6)	6.45	1.24	5.18	2.26	8.40	13.54
L_4 (Advanced) (N = 6)	8.26	1.38	5.98	6.47	8.51	20.91
$\bar{X}_L$ (N = 24)	6.19	1.20	5.10	2.54	5.33	11.16

TABLE 3. COMPARISON OF SYNTACTIC COMPLEXITY OF SUBJECTS' ORAL CLASSROOM LANGUAGE BY LEVEL (INDEX OF COMPARISON = L_4)

LEVEL	VARIABLE					
	w/T	c/T	w/c	AD/100	AV/100	N/100
L_1 (Beginner) (N = 6)	0.52	0.74	0.70	0.00	0.09	0.08
L_2 (Upper Beginner) (N = 6)	0.70	0.83	0.84	0.23	0.43	0.33
L_3 (Intermediate) (N = 6)	0.78	0.90	0.87	0.35	0.99	0.65
L_4 (Advanced) (N = 6)	1.00	1.00	1.00	1.00	1.00	1.00